UNIVERSITY OF GONDAR, FACULTY OF VETERINARY MEDICINE,

DEPARTMENT OF ANIMAL PRODUCTION AND EXTENSION

ASSESSMENT OF PRODUCTION AND MARKETING SYSTEMS OF SMALL RUMINANTS IN GONDAR DISTRICT

SENIOR RESEARCH ROJECT REPORT

BY

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MAY, 2015

GONDAR, ETHIOPIA

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SENIOR RESEARCH PROJECT SUBMITTED TO DEPARTMENT OF ANIMAL PRODUCTION AND EXTENSION, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR BACHELOR OF SCIENCE DEGREE IN ANIMAL PRODUCTION AND EXTENSION

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IV.LIST OF ABBREVATIONS

BC	Before Christ
CS	Central Statistical Authority
DA	Development Agents
EARO	Ethiopian Agricultural Research Organization
FAO	Food and Agriculture Organization of the United Nations
GOs	Governmental Organizations
Ha	Hectare
HHs	Households
ILCA	International Livestock Center for Africa
ILRI	International Livestock Research Institute
IPMS	Improving Productivity and Market Success of Ethiopian Farmers
Kg	Kilogram
M M:	Millimeter
NGOs	Non Governmental Organizations

V. ACKNOWLEDGEMENTS

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VI.ABSTRACT

The study was conducted in Gondar Town district of Northwestern of Ethiopia with objectives of to assess of small ruminant production and marketing systems. Results are based on respondent's survey of 70 sample households, and monitoring of 20 flocks of major sheep and goat markets. The purposes of keeping small ruminants in the study area were for income generation, for saving, meat, manure and risk distributions. From the interviewed households, high percent to low percent of them utilize communal grazing, aftermath grazing, roadside grazing, and riverside grazing, respectively. All small ruminants are housed for protection from adverse weather conditions and predators. There are four market places where small ruminants were marketed in addition to many villages that were used as primary market sources for small ruminants. A farmer, traders, brokers, restaurant/hotel owners, butchers are the major market participants. There is one main market route i.e., from Gondar to Addis. The major problems for small ruminant production and marketing were: feed and grazing land shortage, lack of input, predators, diseases and parasites and marketing problems. In order to utilize the current growing demand of small ruminant meat at local and international markets, identification of alternative feed resources and strategic feeding management, identification of causes of diseases and their control methods as well as improving marketing efficiency through appropriate policy and provision of information are areas of interventions.

Key Words: Market, Sheep, Goat.

1. INTRODUCTION

Small ruminants are integral part of livestock keeping in Sub-Saharan Africa (SSA) that are mainly kept for immediate cash sources, milk, meat, wool, manure, and saving or risk distribution (Kosgey, 2004). Small ruminants also have various social and cultural functions that vary among different cultures, socio-economies, agro-ecologies, and locations in tropical and sub tropical Africa. Ethiopia has a large livestock resource than most countries in Africa.

It is estimated that 84% of the 70 million people live in rural areas and depend on agriculture for their livelihoods and the sector contributes 41.4% of the Gross Domestic Product of the country (World Bank, 2006). There are about 26.1 million and 21.7 million sheep and goats population heads in the Ethiopia respectively They are important components of the livestock subsector and are sources of cash income and play a vital role as sources of meat, milk and wool for smallholder keepers in different farming systems and agro-ecological zones of the country (Tesfaye 1992)

Moreover, due to their high fertility, short generation interval, adaptation in harsh environment and their ability to produce in limited feed resource they are considered as investment and insurance (Abule, 1997; Tsedeke, 2007). Therefore, improvement programs are necessary to increase productivity and sustainable development of small ruminants in different farming systems of the country in innovative approach so as to meet the demands of the human population. However, such development achievement for sheep and goats will only be successful when accompanied by a good understanding of the different farming systems and when simultaneously addressing several constraints: feeding, health control, marketing control, and general management. In these farming systems, small ruminant keeping and fattening is nowadays becoming a common practice even among young landless men and women due to ever-increasing prices. Despite their potential in the area, productivity of sheep and goat remained quite low presumably due to such factors as feed shortage and lack of veterinary services. Therefore it is crucial to systematically describe the production and marketing systems in order to plan and design appropriate research and development interventions that are relevant

to the specific systems. The general objective of the notion was, therefore, to generate baseline information on sheep and goat production systems and marketing in Gondar district of Amhara Regional State.

The specific objectives of the study were;

• To assess the production of small ruminants in Gondar town

• To asses marketing of small ruminant in Gondar town.

2. LITERATURE REVIEW

2.1 Genetic diversity and distribution of small ruminant in Ethiopia

Domestic sheep (*Ovis Aries)* and goats (*Capra hiricus)* were the first ruminants to be domesticated in southwestern Asia (Iran and Iraq) between 10,000 and 6,000 BC and distributed in various ecological niches of the world. Ethiopia, a country recognized as gateway for Africa to small ruminant from Asia (ILRI, 2004), has about 11 pheno typically distinct indigenous goats populations that have been identified based on a combination of their morphological appearance and management systems.

According to report of ILRI (1996), Ethiopian and Eritrean goat types are categorized under four broad families that represent type and geographic locations there are the Nubian family that includes Nubian and Barka, the Rift Valley family that includes Wore, Abergalle, Afar, Arsi - Bale and Woyito-Guji, the Somali family that includes Hararghe Highland, short-eared Somali and long-eared Somali; and the Small East African family that includes Central Highland, Western Highland and Kaffa. Molecular characterization based on the traditionally recognized populations using micro-satellite exhibited eight goats (Tesfaye*et al.,* 2006) and nine sheep with separate genetic entities or breeds. Indigenous sheep and goat genetic resources have developed specific adaptations to survive and produce under adverse local environmental conditions and to perform better under low input systems.

2.2 Small ruminant production systems in Ethiopia

Ethiopia is a country endowed with diversified fauna and flora that are found in various agro ecologies. These agro-ecologies can be further categorized into sub-agro-ecologies and macro and micro niches which are the home of differently adapted animal and plant species. These life forms are dependent and interdependent on each other forming biological systems. In the Agricultural systems, there are various integrated and interrelated systems among which crop farming and livestock keeping are important components. Livestock production system varies due to differences in livestock species, resource endowment, climatic condition, human and livestock population, level of economic development, research support and government

economic policies. Moreover, soil condition and crop farming also contribute for variation of livestock production systems.

There are various factors that should be considered to categorize small ruminant production systems in Ethiopia. In mixed crop-livestock production system which mainly seen in central highland of the country, small ruminant production is characterized by low productivity due to nutritional stress and internal and external parasites. The Pastoral and agro-pastoral systems which are found in the lowlands are characterized by extensive production based largely on the rangeland (ILRL, 2000). The existence of private commercial and Parastal production systems on limited scope were also reported by Abule (2006).They are Forms of modern small ruminant production systems .Based on prevalence of agricultural activity ILRI (2008) has classified traditional small ruminant production system into:

1. Small ruminant in annual crop-based system; located in northern, north western, and central highlands.
2. Small ruminant in perennial crop-based; mostly found in southern and south-western highlands.
3. Small ruminants in cattle based systems; these systems usually exist in agro-pastoral and semi arid-areas.
4. Small ruminant dominated systems; found in pastoral and arid areas of eastern and north-eastern Ethiopia, in which system sheep and goats are the dominant livestock species.

2.3 Role of small ruminant in livelihoods of small holder farmers in Ethiopia

The production system in which sheep and goats are kept is differing markedly. Differences exist not only in production systems but also in relative importance and potential for increased Production. Variations arise due to differences in resource endowment, climate, population, Disease incidence, level of economic development, research support and government economic policies (Beets, 1990). According recent studies in southern part of Ethiopia, found out that Smallholder farmers in crop-livestock mixed systems kept small ruminants mainly for cash generation. In Alaba and Dale districts of Southern Nations Nationalities and Peoples Region (SNNPR), small ruminants are also primarily kept for cash generation purpose (Tsedeke, 2007).

In central Rift Valley of Ethiopia, where uncertainly of rainfall is observed, women and children are involved in owning and keeping small ruminants for immediate income generation (Abule, 1998). It is likely that smallholder farmers are mainly targeting small ruminant for market rather than using for meat purpose which nowadays restricted to holidays or especial occasions.

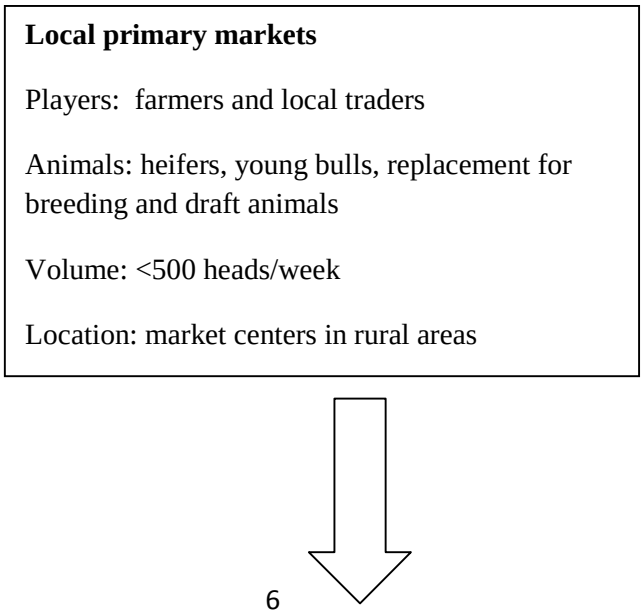
According to a recent report by Central Statistics Authority of Ethiopia, about five million small ruminants were slaughtered in the year 2007/2008 in the country which indicates their Potential for meat production The milk of small ruminants has also been consumed by many farming communities although there is variation among farming systems, cultural and socio economic conditions of the society. In central rift valley, in eastern, south-eastern and northeastern part of the country, goat milk is consumed by farming community (Abule, 1998). It was reported that a total 14 million sheep and 13 million goat skins produced annually from which 95% of the sheep and 70% of the goatskin is recovered at the market During 1995-1996 the export value of sheep/lamb skins amounted to be about 82 million US$ (ILRI, 2000). Live animals are also exported to middle east countries and sources for foreign currency; for example, between 1995-1996 an estimated amount of 4.6 million US$ was derived from the export of small ruminant (ILRI, 2000).There are also other benefits of small ruminants such as manure which is used as fertilizer and household fuel (ILRI, 2000); farmers also use small ruminants as savings at time of crop failure or drought (Tsedeke, 2007;). They are also considered as investment and insurance to provide cash sources for purchase of farm inputs and house expenses. In recent years, landless farmers and young men are involved in small ruminant fattening due to incentive prices and farmers add value of their animals by fattening with local feeds and in some cases concentrate feeds in order to get higher prices.

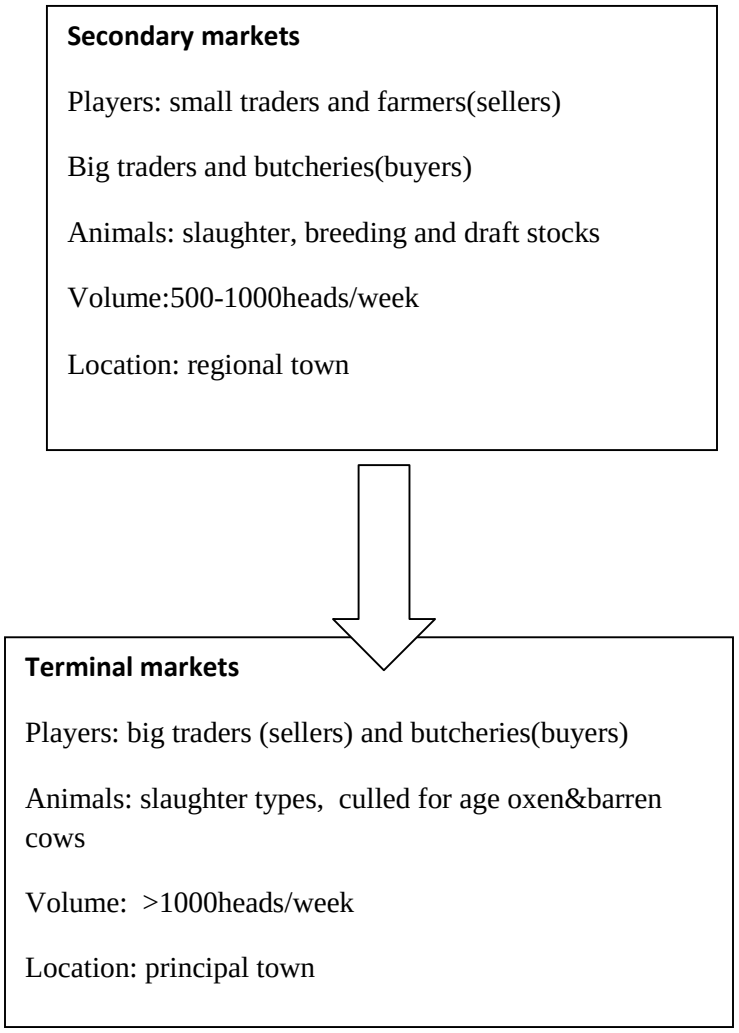
For many smallholder farmers, livestock are the only ready source of cash to buy inputs for crop production, such as seeds, fertilizers and pesticides. However, the middle and high altitudinal areas are under threat because of shrinking cultivated areas per household, reduced feed availability and land fragmentation. Results of recent studies in sub-humid highlands of southern Ethiopia showed higher feed scarcity thereby difficulty of sustaining large ruminants indicating further comparative advantages of small ruminants pertaining to their lower nutrient

requirements. As population increases further and land holding decreases, the role of cattle as compared to small ruminants may be reduced.

2. 4 Small Ruminant marketing in Ethiopia

Ethiopia adopted an Agricultural Development-led Industrialization (ADLI) strategy, which initially focused on food crops and more recently, the country has added market orientation to this strategy Increased availability and utilization of appropriate technologies, an effective and efficient service delivery system and, sustained demand for the agricultural outputs are critical in such market-oriented agricultural development efforts. However, the infrastructural development is also rather limited which is a major bottleneck, only 17% of the rural population lives within 2 km of an all season road and only 0.4% has access to electricity (World Bank 2006). There is an increase in demand of Ethiopian small ruminants both for local and export markets Recent studies showed that smallholder farmers mainly keep smallruminant as a source of income (Tsedeke, 2007;) which may indicate higher demand for small ruminants. According to Abule *et al.*(2003), the domestic livestock marketing structure of Ethiopia follows a four tier system (Figure 1). The main actors of the 1st tier are local farmers and rural traders/rural assemblers who transact at farm level. Those small traders from different corners bring their animals to the local market (2nd tier). Traders/wholesalers purchase a few large animals or a fairly large number of small animals for selling to the secondary markets. In the secondary market (3^{rd} tier), both smaller and larger traders operate and traders (wholesalers or retailers) and butchers from terminal markets come to buy animals. In the terminal markets (4th tier), big traders and butcher (wholesalers or retailers) transact larger number of mainly slaughter type animals.Source: Abule *et al.* (2003) Figure 1. The domestic livestock marketing structure in Ethiopia.





Source Abule *et al*, 2003

Ethiopia exports chilled goat meat to five countries and mutton to the Gulf States of Saudi Arabia and United Arab Emirates which are the largest recipients but there is very high degree of inter-annual variation in traded volume, both within and across species. Similar author reported that high annual volumes in recent years are especially apparent for mutton and lamb (2003) and goat meat (2003-4), confirming that export market options for Ethiopia have recently expanded. It is also important to note, however, that these figures do not include "unofficial" transactions. Large numbers of Ethiopian animals are unofficially traded to Gulf States via the borders of Somaliland and Djibouti and Sudan (Wilson, 2006). It was observed that the net commercial off-take rate is very low over different time periods for sheep and goat for smallholder farmers and pastoralists in Ethiopia Similar report indicated that in 1999/2000, the average net commercial

off-take rates of sheep and goats for smallholder farmers in the highland areas of Amhara, Oromia and Tigray is 22 and 18%, respectively while in 2004/05, the average net commercial off-take rate sheep and goats for smallholder farmers in highland and lowland areas of Ethiopia were 7 and 8%, respectively (Wilson 2006).

3. MATERIALS AND METHODS

3.1. Description of the Study Area

The Study was conducted in Gondar Town the capital North Gondar Administrative Zone of Amhara National Regional State, which is located 748km North West of Addis Ababa. The Gondar Town is located at latitude of 12.3-13.8^{0}N, longitude of 27.2-35^{0}E and stands at an altitude range between 1800-2500m above sea level. The average maximum and minimum daily temperature of the area varies between 22-30.7^{0}c and 12.3-17.7^{0}c respectively.

The region receives a bimodal rainfall, the average annual precipitation rate being about 1172mm. The short rains occur during of the March, and April while the long rain extends from June through September. The production system observed around the area combines Cereal based Agriculture and Livestock Farming(CSA,2008) Chart 1. The map of the country and explained the study area.

3.2. Sampling technique

To develop sampling frame for the study, probability sampling method was used. The purposive sampling from probability sampling techniques and convenience sampling technique from simple random study area were used.

3.3. Method of data collection

The primary data necessary for the study was collected from respondents by using pre-tested as structure interview schedule. The interviews schedule was consisted different types of questions related to the topic of the research and relevant variables to gather the need information. The interviews was undertaken for seven days in order to allow the respondents to express their opinion freely on issue related to the research topic. Before computing the data, all the necessary editing was done. Qualitative assessment was carried out using key informants and focus on the interviewed respondants.

3.4. Data analysis

The data were organized, summarized and analyzed using SPSS statistical package. For data involving frequencies, descriptive statistics were employed and Pearson chi-square were used to compare variables across the small ruminant density groups, where as quantitative variables were analyzed using analysis of variance procedure.

4. RESULTS AND DISCUSSON

4.1 Socio-economic characteristics of the households

4.1.1 Household characteristics

In the study area, the majority some socio-economic characteristics of the studied household heads shown by small ruminant density group. Values in the body are percentages of the households under the respective category. The majorities (84.3%) of the interviewed household heads were literate while 15.7% of them were illiterate. The number of household members who were in secondary, primary schools , diploma/degree and Illiterate was 60%,8.6%, 4.3% and 7.2% for males a and 7.1%,2.8%, 1.4% and 0% for females were respectively. Table1.Socio-demographic characteristics of households.

	Frequency		Percent
Age	1-15years	2	2.9
	16-60years	51	72.9
	Above 60years	17	24.4
	Total	70	100
Religion	Christians	53	75.7
	Muslims	17	24.3
	Total	70	100
Sex	Male	62	88.6
	Female	8	11.4
	Total	70	100
Educational Level	Illiterate	11	15.7
	Primary school	8	11.4
	Secondary school	47	67.1
	Diploma/degree	4	5.7
	Total	70	100

4.1.2 Land holding and its allocation

The average land holding per household in the study area was 1.93 ha. According to key informants, there is indirect relationship between small ruminant holding and amount of land

allocated for teff. As the farmer allocates more land for teff he/she tends to have less number of small ruminants or not at all.

4.2 Small Ruminant production system

4.2.1 Flock size characteristics

In Gondar town district, the total number of shoats (sheep and goats) was 1460 and 985 respectively, from these total numbers of sheep and goats Azozo kebeles has 980 sheep and 720 goats and kebele 17 has a total number of 480 sheep and 265 goats.

In Gondar district, small ruminants are kept for different purposes (Table 2). About 40% of the small ruminant keepers keep them mainly for income generation. The second main reason for keeping small ruminant in the study area is for saving purpose. According to respondent participants and key informants in the area, teff is the main cash crop followed by wheat. Keeping small ruminant for meat and manure purposes were ranked as third and fourth important reason. Although its amount is small, in most households farmers prefer small ruminant manure to cattle manure. Other important reasons include for risk distribution, sacrifice and social heritages. **Table2.** Purpose of keeping the small ruminants and ranked by owners in the study area

Rank	Frequency	Percent
Income sources	15	21.4
Meat	0	0
Manure	0	0
Sacrifice	0	0
Social function	0	0
Saving	11	15.7
All	44	62.2
Total	70	100

4.2.2 Feeds and Feeding systems

4.2.2.1 Major feeds available and their utilization

Grazing is the common feed source for small ruminants in the study area. Common forms of grazing and non-conventional feed sources and their season of utilizations. Communal grazing land, roadside grazing, riverside grazing and aftermath grazing are the major types of grazing for

sheep and goats. From the interviewed Households, the percentage of given places or communal grazing from higher to lower of them utilize communal grazing, roadside grazing, riverside grazing and grazing aftermath, respectively. Although there is difference in utilization across months of the years, communal grazing lands are utilized throughout the year.

Grazing river side is utilized in dry season and short rainy seasons while intensity of its utilization then declines until November. This may be due to the utilization of communal grazing lands in wet months. In the study area there is a wide utilization of non-conventional feed sources such as home left over, fruit left over, enset and banana parts, weeds and crop tillers and fillers. From the interviewed households, 83.5% fed their animals (particularly castrates) with graze and home left-over. Weeds and crop tillers of maize and sorghum are also other common feed sources for sheep and goats.

According to group discussion there is the same in allowable grazing time between the two species. From the interviewed households of herd sheep and goats alone and others keep small ruminants with large ruminants while grazing. Others feed for small ruminants are bean geleba and dashen beer cemaki respectively. The tendency of keeping small ruminants with large ruminant is lower, this because of their feeding behavior

4.2.4 .Feed shortage

Feed shortage is one of the limitations for small ruminant production in the area. From the interviewed households, the most of the respondents reported feed shortage in the area. Feed shortage is indicated across all seasons of the year higher percentage was reported for dry season, while medium were in wet seasons, respectively. The higher feed shortage during the dry season may be due to the majority of farmers use communal grazing land which provides little forage in dry season; as most lands are covered by perennial crop, the animal are not allowed to move freely.

4.2.5 Water sources and utilization

River water was reported to be the major water source high according to respondents from bilagic kebeles for small ruminants in the study area. Other water sources include ponds, pipe water and rain water during rainy season well known respectively while others do not take sheep and goats to watering points rather supply at homestead. Relatively smaller time (15 minutes)

was reported for traveling to main water in the area and 10 minute travel to ponds in the study area. According to respondents from interviewed the study area, in wet season, there is no shortage of water so the majority of households do not water sheep and goats. But, the most of the study area were had the lack of watered; areas such like: kebele17 or kera, Maraki orkebele 18, kebele 19, kebeles20 and others the nearest of the Gondar town district. The interviewed from small traders the shortage of main problems, that means we sold 20 liter water by 2birr.

4.2.6 Small ruminant management and husbandry

4.2.6.1 Small ruminant housing

All farmers in Gondar district shelter their animals during the night to protect them from Predators and adverse climatic conditions. From the interviewed households, from high percentage to low percent shelter their sheep and goats for reasons of protecting from bad weather, predators and to provide supplement in the evening respectively. However, places of sheltering and type of houses vary.

4.2.7. Consumption of small ruminant and their products

In Gondar district, small ruminant meat was consumed during various occasions. However, the time is mostly restricted to holidays and some occasions like weeding, births in a family, funerals and during cereal crop harvest. The majority of households consume meat during celebration times while of households consume small ruminant meat during cereal crop harvest season. According to group discussions, slaughtering small ruminants when teff is to harvest is a common among farmers in area in “good teff years’’. Weeding time also a time when small ruminants are slaughtered. There is no report of small ruminant milk utilization in Gondar farming community.

4.2.8. Small ruminant health and diseases

One of the limiting factors in small ruminant production and marketing in the Gondar town are diseases and parasites. According to getting information from study area, there was some disease and parasites. But, they rare occur Foot and Mouth disease which known as local called kitin and kufign disease. This disease was almost removed from without any treatment and vaccination. Occasional we used vaccination. Mortality very little. Other disease also occasionally occurred in the study area was known as locally called Sali**,** which means common name was wooden

tongue. The clinical sign of a disease are coughing, starvation, and dropped neck. Mortality was medium. Vaccination was more useful.

4.3 Marketing of small ruminants

4.3.1. Market places

In Gondar district, there are permanent market places namely Auto parko, Azozo, Maraki and Buluko. Four of them function one day per week while Auto Parko gives services for two days per week. In addition, the consumers in the town and restaurant owners can buy sheep and goats throughout the week from Gondar town; because, in addition to two days of marketing there are temporary places that supply small number of animals but they do not give services during regular market days. Farmers in Gondar sell and/or purchase their sheep and goats either in villages or take to the nearby towns.

Out of interviewed households, (low percent) and (high percent) sale their animals in villages and towns, respectively while few percent and more percent purchase from villages and towns respectively. Farmers prefer selling in town due to higher prices. There are also small traders who take animal from villages to primary markets. Auto parko is central and the biggest market in Gondar town district. So more volume of buyers with better purchasing power can be founded.

4.3.2 Market participants

4.3.2.1. Farmers

Farmers raise small ruminants and sell in times of cash need. Landless farmers and other, farmers during dry seasons or when prices cereal crops (teff and others) fail will buy small ruminants for a reduced price. They then fatten them and sell during holidays or during others cases.

4.3.2.2. Small traders (Amateur Traders)

Small traders are those who buy small ruminant from small towns like Ambayesus, maksegnit, Dambia, Robit and Azozo sell them in the places area or to bigger traders who transport to central markets. Usually they buy and sell small number of animals, not more than 20 animals. According to the interviewed said that the price of sell or purchase of sheep and goats were

temporarily depend on our ages; when a rams age at 1 -2years we sold from small marketing 450-650 birr and we bought 500-780 birr through central market while when a bucks age at 2-3.5years we sold from small marketing 300-750 birr and we bought 350-800birr through central market. The price of sheep and goats were more different with ages. A small trader has no tax.

4.3.2.3. Permanent traders (bigger traders)

In Gondar town the main marketing place was known as Autoparko. These traders buy small ruminants from farmers, small traders and supply to other bigger towns like Homera, Metama and Addis Ababa. In most cases they use brokers to buy large number of animals and are actively involved in marketing throughout the year.

4.3.2.4. Butchers/Hotel/Restaurant owners

In Gondar town, butchers also sell sheep and goat meat to consumers. Nowadays the trend to sell small ruminant meat has been increasing in other small towns in Gondar district. Hotel/restaurant owners also buy small ruminant from farmers, small traders/larger traders and make local delicacies like Misto, Tibsi, Dullet, and Key wot, Minchet, Kikil.

4.3.2.5 Brokers/Delalas

Brokers locally called *Delalas* are also major participants in marketing of small ruminates in the study area. According to key informants, without their involvement no animal can be high price sold. The role of brokers in marketing small ruminants in the area has two views; one group describes them favorably as they facilitate transaction between buyers and sellers while others see them as problems in marketing as they are the ones who mainly decide on the price. The fee they collect is also described by some as exorbitaul and unnecessary a as one can negotiate the price his/her animal with the buyers/sellers. **Table3**. The information of marketing participants and channels.

	Frequency		Percent
Why they sold	Cash for home consumption	0	0
	Loan	18	25.7
	By build house	9	12.9
	By learns children's	26	37.1
	All	17	24.3
	Total	70	100
Market channels	Local marketing	45	64.3
	Village collator	17	24.3
	Relative market	8	11.4
	Total	70	100
Is there broker accessible	Yes	57	81.4
	No	13	18.6
	Total	70	100
Is there any price difference between market channels	Yes	56	80
	No	14	20
	Total	70	100

4.6 Constrains in small ruminant production and marketing constrains

The major constraints in small ruminant production in the study area shown below. Feed and grazing land shortage the most limiting constraint in small ruminant production in the study area. Feed shortage in both seasons (dry and wet) limits productivity of small ruminants and it was further worsened due to the absence of awareness and practice of feed conservation techniques. Moreover, forage development has been given less attention. Water shortage and drought were reported by medium and high, respectively in shoat's dominant sites. This may be due to these areas receives relatively smaller rainfall and has shorter rainy seasons than their counterparts.

4.6.1 Marketing Constraints

The marketing constraints in small ruminant production in the study area are shown below. The major problems of marketing as reported by respondents are seasonality of market price, lack of brokers, lack of monitoring of market and lack of market price information.**Table4**.Challanges of small ruminants in the study area

		Frequency	Percent
Types of challenges in production	Shortage of feed	0	0
	Shortage of water	0	0
	Problems of disease	0	0
	Lack of market information	0	0
	All are challenges of respondents	61	87.1
	No shortage of water	9	12.9
	Total	70	100
Types of disease	Wooden tongue	0	0
	FMD	6	8.6
	RVF	0	0
	FMD & Wooden tongue	62	88.6
	No disease	2	2.8
	Total	70	100
Is there vaccinated	Yes	68	97.1
	No	2	2.9
	Total	70	100
Is there shortage of water	Yes	9	12.9
	No	61	87.1
	Total	70	100
Which season	Dry season	70	100
	Wet season	0	0
	Total	70	100

5. CONCLUSIONS AND RECOMMENDATION

Small Ruminants are integral part of livestock keeping in Ethiopian farming and pastoral community and they are mainly kept for immediate cash sources, milk, meat, wool, manure, and saving or risk distribution. They also play important role as sources of foreign currency through export of live animals or their products. In Ethiopia small ruminant production lack reliable marketing outlets that could provide the full benefits of indigenous small ruminant resources.

The major purpose of this study was to assess of small ruminant production and marketing in Gondar district, North western Ethiopia .The study was conducted in two phases in order to generate information on sheep and goat production and marketing.

Structured and semi-structured questionnaires were used to collect information on different aspects of production system and to collect marketing information. The principal feed sources in the study area were grazing land (communal, road side), bean geleba, cemaki and home leftover. There are five towns in the district where small ruminants are marketed. In addition, villages are also places of marketing for small ruminants. Farmers, traders, brokers, restaurant/hotel owners, butcheries are the major market participants. There is one main market route; from Gondar to Addis Ababa and to Metema.

Farmers in Gondar target marketing in holidays. Fasika is the most important target time of marketing for fattened castrates. The major problems in small ruminant production and marketing were, feed and grazing land shortage, diseases and parasites; predators; marketing problems; inadequate extension support. In general; • Feed development projects should be planned and implemented as the rainfall pattern and soil fertility can enable most annual and perennial forage crops plantation effective. • Diseases and parasites which are the major constraint in small ruminant production should be studied in depth and microbial causes should be identified; Epidemiology should also be clearly indicated and appropriate development intervention should be planned. • Quantitative aspects of marketing (supply, prices, producer and consumer behavior) require further study to provide complete marketing information.

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7. APPENDICIES

QUESTIONNAIRE

1. Enumerator's Name _____

2. Date of Interview _____

3. Kebele Name _____

Section One: General information

1. Name of the interviewee _____

2. Sex of the interviewee Male _____ Female_____

3. Position in House hold:_____ Head _____ spouse _____

4. Religion: _____

5. Family size

a. Children (<15 years): Females _____Males_____

b. Adults (15-65): Females _____Males_____

c. Adults(>):Females _____Males_____

6. Educational level of Family members.

6.1. Illiterate

6.2. Grade 1-6_____

6.3 Grade 6-12_____

6.4. Higher education _____

Land holding and land use systems

1. What is the size of your total land holding? _____ timad

2. How much is your land allocated for the followings?

1 Creal crop cultivation _____*timad*

2. Forage cultivation _____*timad*

3. Grazing/pasture land _____*timad*

4. Fallow land _____*timad*

5. Others, specify _____*timad*

Purpose of keeping Sheep and Goats (Rank them)

1. Income source (sale) 2.Meat 3.Milk 4. Manure 5.Sacrifice/rituals 6.Social/cultural function 7. Saving (Insurance) 8. Risk/Benefit Distribution with other animals 9. Other reasons_____

Section Two: Sheep and goats productionA. Feed and water resources, seasonal calendars and feeding managements

1. What are the major basal feeds sources available for sheep and goats & their availability? ----------Months (season) ----------

2. Do you graze your sheep and goats? 1=Yes 2=No

3. If yes, for how long.?_____days in a week _____hours a day

4. How sheep and goat graze? 1= Sheep alone 2=Goat alone 3= Sheep + Goat 4=Together with other livestock

7. Do you usually provide your sheep and goats with supplementary feeds in addition to grazing? 1=Yes 2=No

8. If yes, what type of feed and. others?

9. When do you usually offer your sheep and goats with supplements? 1=Dry season 2=Wet season 3=both

10. How often do you offer supplements to your sheep and goats? 1=Daily 2=Twice a day 3=whenever available4=others, specify

22. What are the common water sources of sheep and goat in this area? No Sources of water Estimated distance(1hr=5kms) Rainy season Wet season 1 River 2 Pond 3 Rain water 4 Water harvest 5 Deep well 6 Pipe 7 Any other sources

23. In what intervals you offer sheep and goats with water? No Frequency Sheep Goat Dry season Wet season Dry season Wet season 1 any time required 2 once a day 3 .Twice a day 4 every other day 5 every three day 6 .Others, specify

24. Is there any water shortage or problem to sheep and goats? 1=Yes 2=No

25. If yes, when? 1=Dry season 2=Wet season 3=both

26. Why shortage of water? 1=Drying of water sources 2=Far distant from water sources 3=Not allowed to use sources 4=Provide other livestock than sheep and goats 5=others, specify

B. Sheep and goats health management

1. -What are the common diseases and parasites that affect health and production of sheep and goats? 1=FMD 2=RVF 3= CBPP 4=others

2. What would you do when your sheep and goats sick? 1=Treat with ethno veterinary practices 2=Sales immediately 3=Slaughters immediately 4=Takes to veterinary center 5=Take to or treat with treatments of local traders 6=others, specify

3. Are you accessible to veterinary services in your locality/near distance? 1=Yes 2=No

4. If yes, how far? _____Km

5. from where you usually obtain veterinary services? 1=OoARD 2=DA offices 3=NGOs 4=Private institutions 5=Open markets

6. How you obtain services in these institutions? 1=Free of charge 2=Payment 3=Credit 4=others, specify

7. Did your sheep and goats vaccinated? 1=Yes 2=No

8. If yes, how? 1=after report of disease cases 2=after certain animals died 3=Others, specify

17. What are the common problems of sheep and goats health management in this area? 1=Widespread of diseases and parasites 2=Shortage of feeds and water in the area 3=Lack/shortage of veterinary institutions 4=Lack of animal health professions 5=Lack/shortage of drugs and medicines 5=Unaffordable prices for services

SECTIONTHREE

Marketing of sheep and goats, their products and by-products

1. Have you sold sheep and/or goats in the past 12 months? 1=Yes 2=No

2. If yes, why? (rank) 1= Obtain cash for farm inputs (fertilizer, seed, others) 2= Obtain cash income for children school 3= Obtain cash for family and animal health treatments 4= Shortage of grazing land and feeds 5= Cash to purchase foods 6=To pay back credit 7= Others, specify_____

3. Where you sell your animals? 1= Farmers in the same village 2= Farmers in nearby village 3=others small towns specify

4. Have you purchased sheep and/or goats in the last 12 months?1= Yes 2= No

5. Why did you Purchas sheep and goats? 1=slaughter for festivals 2=slaughter for ceremonies/rituals 3=Breeding 4=fattening 5=others